Technical Data Sheet

LOCTITE ABLESTIK QMI534

August 2018

PRODUCT DESCRIPTION

LOCTITE ABLESTIK QMI534 provides the following product characteristics:

Technology	Bismaleimide Resin
Appearance	White paste
Product Benefits	• Hydrophobic • Stable at high temperatures • Void-free bondline • Excellent interfacial adhesion strength
Cure	Heat cure
Application	Semiconductor or NCA

LOCTITE ABLESTIK QMI534 is a Fluoropolymer filled non-conductive adhesive for attachment of intergated circuits and components to advanced substrates, including: PBGAs, CSPs, array packages, and stacked die.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific Gravity @ 25 °C	1.25
Viscosity @ 25 °C, mPa·s (cP):	
Speed 5 rpm	9,000
Thixotropic Index (0.5/5 rpm)	5.0
Pot Life @ 25 °C, hours	24
Shelf Life @ -40ºC , days	365
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Recommended Cure Schedule

*Skip*Cure

≥6 seconds @ 240°C

Alternate Cure Schedule

Conventional Oven

15 minutes @ 150°C

The above cure profiles are guideline recommendations. Cure conditions (time and temperature) may vary based on customers' experience and their application requirements, as well as customer curing equipment, oven loading and actual oven temperatures.

TYPICAL PROPERTIES OF CURED MATERIAL

Physical Properties

Glass Transition Temperature, °C		-35
Coefficient of Thermal Expansion, TMA, ppm/°C:		
Below Tg		87
Above Tg		171
Thermal Conductivity , W/(m-K)		0.4
Alpha Particle Emissions, particles/cm² /hr		0.0007
Extractable Ionic Content, :		
Sodium (Na+)		≤20
Potassium (K+)		≤20
Chloride (Cl-)		≤20
Fluoride (F-)		≤20
Moisture Absorption, 168 hours @ 85°C/85% RH, wt.%		≤0.35
DMA Modulus @ 25°C	N/mm² (psi)	300 (43,500)

Electrical Properties

Volume Resistivity, ohm-cm	$>10^{13}$
Dielectric Constant @ 25ºC, 1 MHz	2.7

TYPICAL PERFORMANCE OF CURED MATERIAL

Miscellaneous

Die Shear Strength @ 25°C:	
300 x 300 mm, 1 mm BLT, Si die on Ag-plated Cu LF, kg-f	8

GENERAL INFORMATION

For safe handling information on this product, consult the Safety Data Sheet, (SDS).

Directions for use

Dispensing and Bondline Control:

- LOCTITE ABLESTIK QMI534 adhesion is tested using 150 mm X 150 mm die with 1 mm bondline thickness. Since thinner bondlines increase stress and may affect adhesion, please call your nearest Technical service engineer for consultation in cases where bondlines less than 1 mm are desired
- LOCTITE ABLESTIK QMI534 has excellent rheology and flows easily under shear stresses such as those present during die bonding. Therefore, bondforces used with other adhesives which produce a certain bondline thickness, may result in thinner bondlines with LOCTITE ABLESTIK QMI534. Optimization of die bonding parameters is strongly recommended to consistently meet target bondline thicknesses.

STORAGE:
Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.

Optimal Storage : -40 °C

Material removed from containers may be contaminated during use. Do not return product to the original container. Henkel Corporation cannot assume responsibility for product which has been contaminated or stored under conditions other than those previously indicated. If additional information is required, please contact your local Technical Service Center or Customer Service Representative.

Conversions

(°C x 1.8) + 32 = °F
kV/mm x 25.4 = V/mil
mm / 25.4 = inches
N x 0.225 = lb
N/mm x 5.71 = lb/in
psi x 145 = N/mm²
MPa = N/mm²
N·m x 8.851 = lb·in
N·m x 0.738 = lb·ft
N·mm x 0.142 = oz·in
mPa·s = cP

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Reference 1

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